

Application Number 10/508,914
Amendment dated February 10, 2006
Response to Office Action of November 14, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A material comprising a substantially plane slab of a metal having on one surface one or more indents of a depth approximately 5 to 20 times a roughness of said surface and a width approximately 5 to 15 times said depth.

Claim 2 (original): The material of claim 1 in which walls of said indents are substantially perpendicular to one another.

Claim 3 (original): The material of claim 1 in which edges of said indents are substantially sharp.

Claim 4 (currently amended): The material of claim 1 in which the Fermi energy level of electrons is increased compared to a material comprising a substantially plane slab of the same metal not having on one surface one or more indents.

Claim 5 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said metal comprises an oxidation-resistant metal.

Claim 6 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said metal is substantially homogenous.

Claim 7 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said metal is selected from the group consisting of: lead, tin and gold.

Claim 8 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said metal is substantially free of granular irregularities.

Claim 9 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said metal is a monocrystal.

Claim 10 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said depth $\geq \frac{[1]\lambda}{2}$, wherein $\frac{[1]\lambda}{2}$ is the de Broglie wavelength.

Claim 11 (cancelled).

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Claim 12 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein said width $\gg \frac{1}{2}\lambda$, wherein λ is the de Broglie wavelength.

Claim 13 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein a thickness of said slab is a multiple of said depth.

Claim 14 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein a thickness of said slab is not a multiple of said depth.

Claim 15 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein a thickness of said slab is between 5 and 15 times said depth.

Claim 16 (currently amended): The material of claim[[s]] 1 [[to 4]] wherein a thickness of said slab is in the range 15 to 75nm.

Claim 17 (original): A method of creating on one surface of a substantially plane slab one or more indents of a depth approximately 5 to 20 times a surface roughness of said surface and a width approximately 5 to 15 times said depth, comprising:

- (a) depositing a layer of material on said surface;
- (b) ablating a portion of said layer by means of electromagnetic radiation to expose portions of said surface;
- (c) creating one or more indents at a substantially 90 degree angle to said surface by etching said exposed portions to a uniform depth;
- (d) removing remaining portions of said layer.

Claim 18 (original): The method of claim 17 wherein said step of ablating a portion of said layer by means of electromagnetic radiation to expose portions of said surface does not damage said surface.

Claim 19 (original): The method of claim 17 wherein said step of ablating a portion of said layer by means of electromagnetic radiation is done with an e-beam.

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Claim 20 (original): The method of claim 17 wherein said step of ablating a portion of said layer by means of electromagnetic radiation is done with an ion beam.

Claim 21 (original): The method of claim 17 wherein said material comprises a metal.

Claim 22 (original): The method of claim 21 wherein said metal comprises an oxidation-resistant metal.

Claim 23 (original): The method of claim 21 wherein said metal is substantially homogenous.

Claim 24 (original): The method of claim 21 wherein said metal is selected from the group consisting of: lead, tin and gold.

Claim 25 (original): The method of claim 21 wherein said metal is substantially free of granular irregularities.

Claim 26 (original): The method of claim 21 wherein said metal is a monocrystal.
slab is between 5 and 15 times said depth.

Claims 27 – 53 (cancelled).